

Prevalence of Depression among College Students in Saudi Arabia

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ABSTRACT

Background: Depression is a public problem which increases significantly around the world. Depression has several outcomes and the worst is suicide. It increases among youths and adolescent and ignoring it will lead to undesirable outcome as it affects the school grades and attention of students. Several tools were established to assess depression prevalence including PHQ-9.

Aim: To assess the prevalence of depression among college students using PHQ-9 questionnaire.

Methods: This study is a cross-sectional study which included college students from 5 different areas in Saudi Arabia. This study used Patient Health Questionnaire-9 (PHQ-9) to investigate the prevalence of depression and its degrees.

Results: The severity of depression in the present study was various, 18.2% had mild depression, 27.3% had moderate depression, 25.8% had moderately severe depression, 22.5% had severe depression, only 6.3% had no depression. Gender and area were significantly affected the severity of depression (P-value<0.001).

Conclusion: There were high rates of depression prevalence among college students and severity of depression was associated with female and students from north area.

Keywords: PHQ-9, Depression, Saudi Arabia.


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INTRODUCTION

Depression was defined as "a persistent experience of a sad or irritable mood as well as anhedonia, a loss of the ability to experience pleasure in nearly all activities".¹ Symptoms of depression include changes in appetite, significantly decreased feelings of self-worth, impaired attention and concentration as well as disrupted sleep patterns.¹ It was stated that depressive disorders are the fourth ranked health problem in the world and major depressive disorder will be the second disabling disease among population in 2020.^{2,3} In the last two decades, depression among adolescents became as a major mental health problem.⁴ It was observed that depression disorders are commonly under detected in healthcare settings, and this will result in significant problems for adolescents and youths at schools if left undetected.⁵ Rates of depression increase from childhood to adolescence with an increase in girls than in boys by 1.5 to 3 folds.⁶ A Chinese-American study revealed that 15 % of participants of the study had depression using the Chinese version of Beck's questionnaire.⁷

Another study among high school students reported prevalence of mild depression in 18%, moderate depression in 19% and severe depression in 7%.⁸ Another study used Beck's depression questionnaire reported moderate depression in 8% to 36%,⁹ while another study reported severe depression in 18% of adolescents.¹⁰ In Saudi Arabia, there were several studies reported the prevalence and severity of depression among school students. One study used Arabic version of the 'Depression, Anxiety and Stress Scale' (DASS), and it was found that 22.6% of students had depression, anxiety, and stress disorders and 59.4% had at least one of the three disorders.¹¹ Another study used DASS and reported that 50.1% had symptoms of at least two disorders of the three previous disorders and 73.4% had symptoms of at least one of the three disorders.¹² As far as we know there was no Saudi study conducted on college students from different areas to assess depression prevalence using PHQ-9, that's why we performed this study.

SUBJECTS AND METHODS**Study Design and Subjects**

This study is a cross-sectional study which was conducted on college students from 5 areas of Saudi Arabia including; east, west, south, north and central areas. The study was conducted in the period between 26th November 2017 to 17th December 2017. This study used Patient Health Questionnaire-9 (PHQ-9) to investigate the prevalence of depression and its degrees. The questionnaire consists of 9 questions with another question investigated problems they faced.

The interpretation of the questionnaire score was as follow;

1-4: No depression; 5-9: Mild depression; 10-14: Moderate depression; 15-19: Moderately severe depression; 20-27: Severe depression.

Statistical Analysis

Data were analyzed using SPSS software version 16, simple descriptive analysis in the form of numbers and percent .chi square was used as a test of significance to compare qualitative variables between trained and untrained group significant level of less than 0.05

Table 1: Description of questionnaire element

Questions	Answers	N	%
Little interest or pleasure in doing things?	Not At All	212	6.1
	Several Days	1107	32.0
	More Than Half Days	913	26.4
	All Days	1224	35.4
Feeling down, depressed, or hopeless?	Not At All	219	6.3
	Several Days	1209	35.0
	More Than Half Days	966	28.0
	All Days	1062	30.7
Trouble falling or staying asleep, or sleeping too much?	Not At All	448	13.0
	Several Days	955	27.6
	More Than Half Days	802	23.2
	All Days	1251	36.2
Feeling tired or having little energy?	Not At All	147	4.3
	Several Days	978	28.3
	More Than Half Days	970	28.1
	All Days	1361	39.4
Poor appetite or overeating?	Not At All	500	14.5
	Several Days	995	28.8
	More Than Half Days	841	24.3
	All Days	1120	32.4
Feeling bad about yourself - or that you are a failure or have let yourself or your family down?	Not At All	580	16.8
	Several Days	1049	30.4
	More Than Half Days	744	21.5
	All Days	1083	31.3
Trouble concentrating on things, such as reading the newspaper or watching television?	Not At All	837	24.2
	Several Days	1128	32.6
	More Than Half Days	673	19.5
	All Days	818	23.7
Moving or speaking so slowly that other people could have noticed	Not At All	1352	39.1
	Several Days	1029	29.8
	More Than Half Days	527	15.2
	All Days	548	15.9
Thoughts that you would be better off dead, or of hurting yourself in some way?	Not At All	2011	58.2
	Several Days	714	20.7
	More Than Half Days	284	8.2
	All Days	447	12.9
Q 10	Not Difficult	570	16.5
	Somewat Difficult	1657	47.9
	Difficult	484	14.0
	Very Difficult	745	21.6

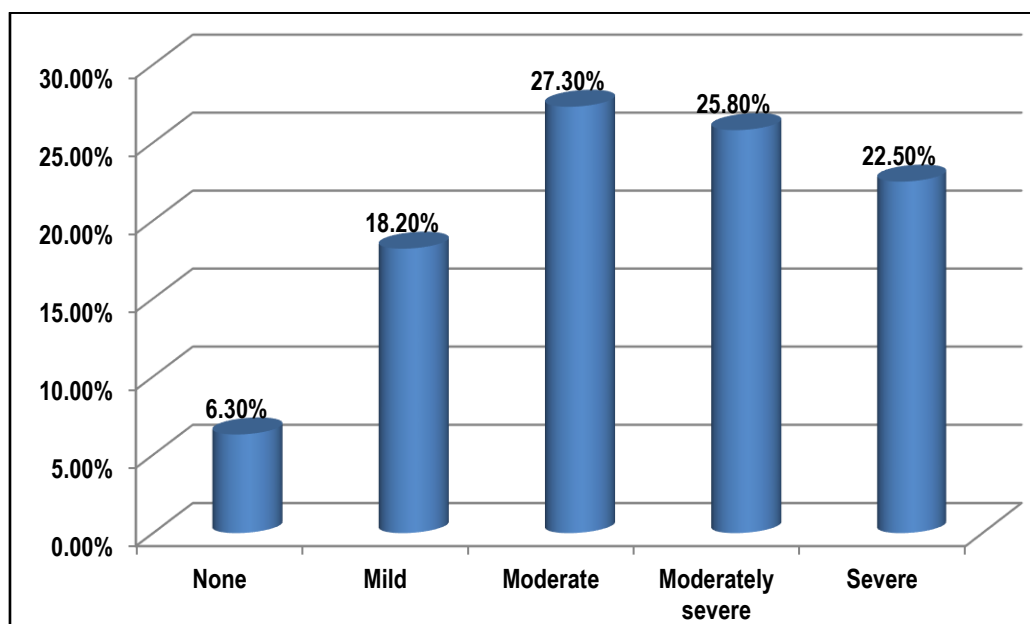


Fig 1: Prevalence of depression among students

Table 2: Relation of depression to sociodemographic

Variables			None	Mild depression	Moderate	Severe	Moderate severe	P-value
Sex	Female	N	103	356	534	565	523	< 0.001
		%	4.9%	17.1%	25.7%	27.2%	25.1%	
	Male	N	115	272	408	326	254	<0.001
		%	8.4%	19.8%	29.7%	23.7%	18.5%	
Area	south	N	19	58	78	68	48	<0.001
		%	7.0%	21.4%	28.8%	25.1%	17.7%	
	East	N	33	122	200	184	197	
		%	4.5%	16.6%	27.2%	25.0%	26.8%	
	North	N	8	35	52	57	57	
		%	3.8%	16.7%	24.9%	27.3%	27.3%	
	west	N	47	135	256	240	208	
		%	5.3%	15.2%	28.9%	27.1%	23.5%	
central	N	111	278	356	342	267		
	%	8.2%	20.5%	26.3%	25.3%	19.7%		
Level	1-4	N	106	300	469	422	417	0.097
		%	6.2%	17.5%	27.4%	24.6%	24.3%	
	4-8th	N	112	328	473	469	360	
		%	6.4%	18.8%	27.2%	26.9%	20.7%	
			106	300	469	422	417	

RESULTS

The present study included 3456 students, the large majority of them 2081(60.2%) were females, while 1375 (39.8%) were males. The students were from first level across eighth level, there were 565 (16.3%), 237(6.9%), 661 (19.1%) and 251 (7.3%) students from 1st, 2nd, 3rd and 4th levels respectively, while 616 (17.8%), 213 (6.2%), 426 (12.3%) and 487 (14.1%) were from 5th, 6th, 7th and 8th levels respectively. The large majority of students 1354 (39.2%) were from the central area, followed by those from western area 886(25.6%), then eastern area 736 (21.3%) and finally south and north areas 271(7.8%) and 209(6%) respectively.

The questionnaire included 9 questions, the percent of each answer for each question is shown in table 1.

The grade of depression among college students was evaluated and it was found that, moderate depression was the most common grade among students 942(27.3%), followed by moderately severe depression 891(25.8%), then severe and mild depression 777(22.5%) and 628(18.2%) respectively, whereas 218(6.3%) only had no depression, figure 1.

Gender had a significant association to depression (P-value<0.001), where depression was more prevalent in females than in males, table2. Also, area significantly affected the

prevalence of depression (P -value <0.001), moderate severe and severe depression were more prevalent in students of north area, where as more students of the central area had no depression. The level of education had no significant difference on the depression prevalence (P -value=0.09), table 2.

DISCUSSION

The present study included large sample size from 5 different areas in the kingdom. In the present study there were high rates of depression prevalence among college students, only 6.3% had no depression, while the others had depression with different degrees. 18.2% had mild, 27.3% had moderate, 25.8% had moderately severe and 22.5% had severe depression, the most prevalent degree was moderate depression. A study from Iran was conducted on high school students and it was demonstrated that mild depression was prevalent in 28% of students, while moderate and severe were prevalent in 5.7% and 0.3% respectively.¹³ A study from India showed a prevalence of various degrees of depression ranged from minimal to severe, there were 9.3%, 25.4%, 45.7% and 19.6% experienced minimal, mild, moderate and severe depression respectively¹⁴ these results were close to ours. Lower prevalence of depression in secondary school students was reported from Qatar, where 65.5% of students had no depression, while 34.5% had depression, 14.9% of them had mild depression, 11.2% and 8.4% had moderate and severe depression respectively.¹⁴ A study from Malaysia showed that moderate, severe and extremely severe depression was prevalent in 21.5%, 18.1% and 3% respectively, while 33.2% experienced mild depression symptoms.¹⁵ A study from Taif, Saudi Arabia reported high prevalence of depression 42.9% among secondary school girls, there were 63.8% had mild depression, while 36.2% had severe depression.¹⁶ The current study revealed that both gender and area affected significantly the severity of depression (P -value <0.001), while the level of education had no significant effect. Females were more prone to develop severe depression as well as those from north area. A study on medical students from India using PHQ-9 questionnaire showed that the year of academic study significantly associated with the prevalence of depression.¹⁷ It is not surprising that these results differed from ours as we studied depression in college students who had less depression than those medical students, as their study is hard and this may lead to more depression they experience. The previous study¹⁷ also showed conflict with our results as they showed that gender had no significant effect on depression. In agreement with our study, Iranian study¹³ reported that females were significantly suffered depression than males, while grades had no significant effect on having depression. Also another study¹⁸ showed that depression was more prevalent in females (26%) than in males (16%). Other several studies showed that depression prevalence was more dominant in females than in males.¹⁸⁻²¹ Although there were differences in the method used to assess depression between our study and the previous studies, the association of depression with female gender is very common. A study from Qatar also reported significant association between female gender and depression prevalence.¹⁴ A study from Malaysia reported no association between gender and experiencing moderate-extremely severe depression, however larger number of female suffered depression than males.¹⁵ We performed this study in different areas of the kingdom so the area

was found as a significant factor related to depression, but there was no study investigated the prevalence of depression in different areas before, so we should give attention to this area and find out the problem made students suffering the higher rate of depression. This study used PHQ-9 questionnaire to assess depression severity among college students and this is the first study to use this questionnaire among students with this large sample.

CONCLUSION

The present study revealed high prevalence of depression among college students with more association to female gender and living in the north areas of countries. It is very recommended to give these students enough care and make them visit doctors to solve this problem, because depression can lead to suicide.

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